

WHAT IS CLAIMED IS:

1. A method for copying data in a memory device system having a plurality of memory devices as partitioned into a group of n memory devices and a group of m memory devices, said method including the steps of:

reading from said n memory devices data with a length required for preparation of redundant data;

forming redundant data from the read data;
and

storing said read data and said redundant data in said m memory devices.

2. The method according to claim 1 wherein at said step of storing, only part of said read data is stored in said m memory devices.

3. A method for copying data in a memory device system being connected to external apparatus and having a plurality of memory devices as partitioned into n memory devices and m memory devices, said method including the steps of:

duplexing and storing data as sent from said external apparatus in said n memory devices and said m memory devices;

halting duplex of data based on an instruction from said external apparatus;

storing the data as sent from said external apparatus during interruption of data duplex in said n memory devices while recording information as to a

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storage location;

restarting data duplex based on an instruction from said external apparatus;

reading data out of said n memory devices in units of m-1 items;

forming redundant data from the data of m-1 unit; and

storing in said m memory devices certain data of said data of m-1 unit as designated by the recorded information along with said redundant data.

4. A memory device system including:

a plurality of memory devices as partitioned into n memory devices and m memory devices;

a controller for control of said plurality of memory devices;

n control means for controlling said n memory devices; and

m control means for control of said m memory devices, wherein when copying data from said n memory devices to said m memory devices said n control means reads data of m-1 unit from said n memory devices whereas said m control means forms redundant data based on the m-1 unit read data to thereby store any one of said m-1 unit read data and said redundant data in any one of said m memory devices.

5. The system according to claim 4 wherein said unit is a predetermined data length with a logical block address as a reference.

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6. The system according to claim 4 further including:

an interface connected to external apparatus;
duplex means for duplexing and storing data
in said n memory devices and said m memory devices;

means for interrupting said duplex means in
accordance with an instruction from said external
apparatus; and

update management means for recording
information as to a location whereat data being input
from said interface is to be stored in said n memory
devices during interruption of said duplex means,

wherein said m control means stores any one
of said m-1 unit read data in any one of said m memory
devices on the basis of information as stored in said
update management means.

7. A memory device system including:

a plurality of memory devices as partitioned
into n memory devices and m memory devices;

a controller for control of said plurality of
memory devices;

n control means for controlling said n memory
devices;

m control means for controlling said m memory
devices; and

data duplex means for duplexing and storing
data in said n memory devices and said m memory
devices.

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8. The system according to claim 7 wherein n and m are different integers.

9. A computer system comprising a first memory device system with n memory devices; and

a second memory device system being connected to said first memory device system and having m memory devices,

wherein said first memory device system includes means for reading data of m-1 unit out of said n memory devices; and

said second memory device system includes formation means for forming redundant data based on the m-1 unit data as read by said first memory device system, and means for storing said redundant data as formed by said formation means and said m-1 unit read data in said m memory devices.

10. A computer system comprising:

a computer; and

a memory device system having a plurality of storage media, wherein

said memory device system includes:

a mirror primary LU;

a mirror secondary LU;

an n-RAID control subprogram for performing RAID control of the mirror primary LU;

an m-RAID control subprogram for performing RAID control of the mirror secondary LU;

an LU mirror subprogram for writing for

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duplex purposes said data into said mirror primary LU and said mirror secondary LU when said computer issues a data write request;

a non-mirror event update monitor subprogram for monitoring data update with respect to said mirror primary LU upon interruption of duplexing of said mirror primary LU and said mirror secondary LU;

a non-mirror event update position management subprogram for recording an update position of said data update with respect to said mirror primary LU; and

a mirror resynchronous subprogram for copying data of the recorded update position from said mirror primary LU to said mirror secondary LU to thereby establish content coincidence, and said mirror primary LU and said mirror secondary LU are different from each other in arrangement of redundant array of inexpensive disks ("RAID").

11. The computer system according to claim 10 wherein said mirror primary LU is formed of $nD+1P$ whereas said mirror secondary LU is made up of $mD+1P$, and wherein m and n are integers more than or equal to two and are of different values.

12. The computer system according to claim 10 wherein said mirror resynchronous subprogram executes processing for establishing content coincidence by copying the data of said recorded update position from said mirror primary LU to said mirror secondary LU and wherein said m-RAID control subprogram performs

processing of reading data out of said mirror primary LU to thereby permit assortment of data of a stripe array of said mirror secondary LU including the data of said recorded updated position.

13. A computer system comprising:

a computer; and

a first memory device system and a second memory device system each having a plurality of storage media, wherein

said first memory device system includes:

a mirror primary LU;

an n-RAID control subprogram for performing RAID control of said mirror primary LU;

an LU mirror subprogram for writing for duplex purposes said data into said mirror primary LU and a mirror secondary LU when said computer issues a data write request;

a non-mirror update monitor subprogram for monitoring data update with respect to said mirror primary LU during interruption of duplex of said mirror primary LU and said mirror secondary LU;

a non-mirror event update position management subprogram for recording an update position of said data update with respect to said mirror primary LU;

a mirror resynchronous subprogram for copying data of said recorded update position from said mirror primary LU to said mirror secondary LU to thereby permit establishment of content coincidence; and

a command issuance subprogram for issuing a command for execution of data transfer relative to the second external memory device; and

said second memory device system includes:

a mirror secondary LU; and

an m-RAID control subprogram for performing RAID control of said mirror secondary LU, and said mirror primary LU and said mirror secondary LU are different in RAID level from each other.

14. The computer system according to claim 13 wherein said mirror primary LU is formed of $nD+1P$ whereas said mirror secondary LU is made up of $mD+1P$, and wherein m and n are integers of more than or equal to two and are different in value from each other.

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